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EXAMINER	
TWEEL JR, JOHN ALEXANDER	
ART UNIT	PAPER NUMBER
2636	

DATE MAILED: 08/26/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/988,376	DERRINGER, BYRON SCOTT	
	Examiner	Art Unit	
	John A. Tweel, Jr.	2636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 May 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *9* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

1. This Office action is in response to the amendment filed 5/29/03. Claims 1, 20, 28, 34, 38, and 41 have been amended. Claims 42 and 43 have been added.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-43 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

4. Claims 1-9, 11-17, 19-25, 27-31, and 33-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Mehnert** in view of **Byrne**.

For claim 1, the apparatus for detecting objects taught by **Mehnert** includes the following claimed subject matter, as noted, 1) the claimed optical system is taught by the directional beam transmitter (No. 100), 2) the claimed object location processor, 3) the claimed object characterizer, and 4) the claimed alarm activation processor is met by the central computer (No. 200) which determines the location of an object (Col 6, Lns. 25-31), the type of object (Col. 8, Lns. 21-29), and sends coded signals to activate condition reports and alarm reports (Col. 14, Lns. 9-14), and 5) the claimed alarm generator and 6) user interface is met by the output unit (No. 407) that depicts condition

reports regarding the monitored terrain, changes in the terrain, coordinates and other data with respect to detected objects, and alarm signals. The specification does not specifically state a user interface; however, the use of known indicator devices and/or alarm devices is mentioned (Col. 16, Lns. 6-8). Computer interfaces allowing personnel to view different types of data are well within this purview. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a user interface as such interfaces have been used for some time in alarm and alerting apparatus. Also, the optical system taught by Mehnert does not contain at least one transmitter located at a first location and at least one receiver located at a second location corresponding to the transmitter.

To locate a receiver and transmitter in two locations is not new in the prior art. The electronic perimeter warning system taught by Byrne includes a transmitter (No. 3) located at a first location and a corresponding receiver (No. 5) located in a second location. This reference is plain evidence that locating the transmitter and receiver in two different locations has been done for quite some time and is notoriously well known in the art of optical transceiving. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include two different locations for the transmitter and receiver for the purpose of taking advantage of a well-known and common optical configuration.

For claim 2, the claimed transmitter is met by the pulse transmitter (No. 112) and the claimed receiver is met by the receiver (No. 125).

For claim 3, the transmitter (No. 112) and receiver (No. 125) form a transceiving unit and the claimed reflectors are met by the retro-reflectors (Nos. 501, 508, 509, 510).

For claim 4, the claimed reflectors are met by the retro-reflectors.

For claim 5, the transmitter (No. 112) and receiver (No. 125) form a transceiving unit.

For claim 6, the system of **Mehnert** detects intrusions (Col. 3, Lns. 48-51).

For claim 7, it is unknown from the disclosure how the operation sensor detection system actually works. The sensing of debris and the issuance of condition reports as pertains the system of Mehnert certainly detects operation of the sensor system.

For claim 8, sensing and producing condition reports found in **Mehnert** certainly assists in diagnosing the output of the optical system.

For claim 9, the system of **Mehnert** is able to determine the movement of the object (Col. 8, Lns. 17-21).

For claim 11, graphical interfaces, as mentioned in claim 1, are quite common and well known in indicator and alarm devices. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include such a graphical interface as these have been in use and are well known in alerting systems.

For claims 12-14, the output unit (No. 407) of **Mehnert** displays information and data regarding certain objects and alarm signals. To assign a degree of severity of alert is not new in alerting systems. Furthermore, one improved aspect of the present system is to reduce the number of false alarms present in prior art systems (Col. 3, Lns. 3-11).

For claim 15, Figure 4 of **Mehnert** depicts a support mechanism for the optical system.

For claim 16, in Figures 2 and 3 of **Byrne**, two telescoping sections (Nos. 38 and 39) are used to adjust the height of the optical transmitter and receiver.

For claim 17, the adjusting means of **Byrne** adjusts the height of the optical system.

For claim 19, Figure 5 of the **Mehnert** reference depicts a cover over the optical transceiving unit.

For claim 20, the apparatus for detecting objects taught by **Mehnert** includes the following claimed subject matter, as noted, 1) the claimed optical system is taught by the directional beam transmitter (No. 100) comprising an optical transmitter (No. 112) and an optical receiver (No. 125), 2) the claimed object location processor, 3) the claimed object characterizer, and 4) the claimed alarm activation processor is met by the central computer (No. 200) which determines the location of an object (Col 6, Lns. 25-31), the type of object (Col. 8, Lns. 21-29), and sends coded signals to activate condition reports and alarm reports (Col. 14, Lns. 9-14), and 5) the claimed alarm generator and 6) user interface is met by the output unit (No. 407) that depicts condition reports regarding the monitored terrain, changes in the terrain, coordinates and other data with respect to detected objects, and alarm signals. The specification does not specifically state a user interface; however, the use of known indicator devices and/or alarm devices is mentioned (Col. 16, Lns. 6-8). Computer interfaces allowing personnel to view different types of data are well within this purview. It would have been obvious

to one of ordinary skill in the art at the time the invention was made to include a user interface as such interfaces have been used for some time in alarm and alerting apparatus. Also, the optical system taught by Mehnert does not contain at least one transmitter located at a first location and at least one receiver located at a second location corresponding to the transmitter.

The claim is interpreted and rejected for the same reasons and rationale as is mentioned in the rejection of claim 1 above.

For claim 21, the system of **Mehnert** detects intrusions (Col. 3, Lns. 48-51).

For claim 22, the system of **Mehnert** is able to determine the movement of the object (Col. 8, Lns. 17-21).

For claim 23, graphical interfaces, as mentioned in claim 1, are quite common and well known in indicator and alarm devices. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include such a graphical interface as these have been in use and are well known in alerting systems.

For claim 24, Figure 4 of **Mehnert** depicts a support mechanism for the optical system.

For claim 25, the support mechanism of **Byrne** comprises means for adjusting the height of the support mechanism of the optical system.

For claim 27, Figure 5 of the **Mehnert** reference depicts a cover over the optical transceiving unit.

For claim 28, the apparatus for detecting objects taught by **Mehnert** includes the following claimed subject matter, as noted, 1) the claimed optical system is taught by

the directional beam transmitter (No. 100) comprising an optical transmitter (No. 112) and an optical receiver (No. 125), 2) the claimed object location processor, 3) the claimed object characterizer, and 4) the claimed alarm activation processor is met by the central computer (No. 200) which determines the location of an object (Col 6, Lns. 25-31) wherein an intrusion is also detected, the type of object (Col. 8, Lns. 21-29) including data regarding the motion and movement of the object, and sends coded signals to activate condition reports and alarm reports (Col. 14, Lns. 9-14), and 5) the claimed alarm generator and 6) user interface is met by the output unit (No. 407) that depicts condition reports regarding the monitored terrain, changes in the terrain, coordinates and other data with respect to detected objects, and alarm signals. The specification does not specifically state a user interface; however, the use of known indicator devices and/or alarm devices is mentioned (Col. 16, Lns. 6-8). Computer interfaces allowing personnel to view different types of data are well within this purview. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a user interface as such interfaces have been used for some time in alarm and alerting apparatus. Also, the optical system taught by Mehnert does not contain at least one transmitter located at a first location and at least one receiver located at a second location corresponding to the transmitter.

The claim is interpreted and rejected for the same reasons and rationale as is mentioned in the rejection of claim 1 above.

For claim 29, graphical interfaces, as mentioned in claim 1, are quite common and well known in indicator and alarm devices. It would have been obvious to one of

ordinary skill in the art at the time the invention was made to include such a graphical interface as these have been in use and are well known in alerting systems.

For claim 30, Figure 4 of **Mehnert** depicts a support mechanism for the optical system.

For claim 31, the support mechanism of **Byrne** comprises means for adjusting the height of the support mechanism of the optical system.

For claim 33, Figure 5 of the **Mehnert** reference depicts a cover over the optical transceiving unit.

For claim 34, the apparatus for detecting objects taught by **Mehnert** includes an optical laser transmitter (No. 112), an optical laser receiver (No. 125), and an optical laser reflector (No. 501). However, the optical system taught by Mehnert does not contain at least one transmitter located at a first location and at least one receiver located at a second location corresponding to the transmitter.

The claim is interpreted and rejected for the same reasons and rationale as is mentioned in the rejection of claim 1 above.

For claim 35, the apparatus for detecting objects or other debris taught by **Mehnert** includes an optical laser transmitter (No. 112) arranged to transmit optical lasers across portions of an area, an optical laser receiver (No. 125) arranged to receive the optical lasers, and a central computer (No. 200) to process the signals to determine the presence of an object in the area.

For claim 36, the system further includes reflectors (Nos. 501, 508, 509).

For claim 37, the system of **Mehnert** includes a transceiver unit (Nos. 112 and 125) and one or more reflectors (Nos. 501, 508, 509).

For claim 38, the method for detecting objects taught by **Mehnert** includes the following claimed steps, as noted, 1) the claimed detecting the presence of an object is achieved using the optical laser transmitter (No. 112) and receiver (No. 125) and interruption of said laser, 2) the claimed processing the output to determine the location is achieved using the central computer (No. 200) that uses timed output signals to determine the exact location of the object, and 3) the claimed transmitting the information is achieved using the coded signals from the beam emitter for condition and/or alarm reports for display or indication purposes (Col. 14, Lns. 12-14). However, the optical system taught by Mehnert does not contain at least one transmitter located at a first location and at least one receiver located at a second location corresponding to the transmitter.

The claim is interpreted and rejected for the same reasons and rationale as is mentioned in the rejection of claim 1 above.

For claim 39, the step of processing the output to determine the type of object is read on the specification of **Mehnert** (Col. 8, Lns. 15-29) which state that an object classification or category is determined based on criteria corresponding to the object.

For claim 40, the claimed user interface is read on the specification (Col. 16, Lns. 1-8) stating that information regarding the object and other data may be presented using known indicator and alarm devices. Graphical user interfaces are certainly well known

and common indicator devices that have been used in alerting personnel for many years.

For claim 41, the method for detecting objects taught by **Mehnert** includes the following claimed steps, as noted, 1) the claimed detecting the presence of an object is achieved using the optical laser transmitter (No. 112) and receiver (No. 125) and interruption of said laser, 2) the claimed processing the output to determine the location is achieved using the central computer (No. 200) that uses timed output signals to determine the exact location of the object, and 3) the claimed processing the output to determine the type of object is read on the specification of **Mehnert** (Col. 8, Lns. 15-29) which states that an object classification or category is determined based on criteria corresponding to the object, 4) the claimed step of processing the output to determine the degree of danger posed by the object is mentioned in the Summary of the invention which states that the data collected by the system can be used to determine the nature and significance of the object, and 5) transmitting the information is achieved using the coded signals from the beam emitter for condition and/or alarm reports for display or indication purposes (Col. 14, Lns. 12-14). However, the optical system taught by Mehnert does not contain at least one transmitter located at a first location and at least one receiver located at a second location corresponding to the transmitter.

The claim is interpreted and rejected for the same reasons and rationale as is mentioned in the rejection of claim 1 above.

For claim 42, the apparatus for detecting objects taught by **Mehnert** includes the following claimed subject matter, as noted, 1) the claimed optical system is taught by

the directional beam transmitter (No. 100) comprising an optical transmitter (No. 112) and an optical receiver (No. 125), 2) the claimed processor linked to the optical system is met by the central computer (No. 200) which determines the location of an object (Col 6, Lns. 25-31), the type of object (Col. 8, Lns. 21-29), and sends coded signals to activate condition reports and alarm reports (Col. 14, Lns. 9-14), and 3) the claimed user interface is met by the output unit (No. 407) that depicts condition reports regarding the monitored terrain, changes in the terrain, coordinates and other data with respect to detected objects, and alarm signals. The specification does not specifically state a user interface; however, the use of known indicator devices and/or alarm devices is mentioned (Col. 16, Lns. 6-8). Computer interfaces allowing personnel to view different types of data are well within this purview. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a user interface as such interfaces have been used for some time in alarm and alerting apparatus. Also, the optical system taught by Mehnert does not contain at least one transmitter located at a first location and at least one receiver located at a second location corresponding to the transmitter.

The claim is interpreted and rejected for the same reasons and rationale as is mentioned in the rejection of claim 1 above.

For claim 43, the apparatus for detecting objects taught by **Mehnert** includes the following claimed subject matter, as noted, 1) the claimed optical system is taught by the directional beam transmitter (No. 100) comprising an optical transmitter (No. 112) and an optical receiver (No. 125), 2) the claimed processor is met by the central

computer (No. 200) which determines the location of an object (Col 6, Lns. 25-31), the type of object (Col. 8, Lns. 21-29), and sends coded signals to activate condition reports and alarm reports (Col. 14, Lns. 9-14), and 3) the claimed user interface is met by the output unit (No. 407) that depicts condition reports regarding the monitored terrain, changes in the terrain, coordinates and other data with respect to detected objects, and alarm signals. The specification does not specifically state a user interface; however, the use of known indicator devices and/or alarm devices is mentioned (Col. 16, Lns. 6-8). Computer interfaces allowing personnel to view different types of data are well within this purview. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a user interface as such interfaces have been used for some time in alarm and alerting apparatus. Also, the optical system taught by Mehnert does not contain at least one transmitter located at a first location and at least one receiver located at a second location corresponding to the transmitter.

The claim is interpreted and rejected for the same reasons and rationale as is mentioned in the rejection of claim 1 above.

5. Claims 18, 26, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Mehnert** in view of **Byrne** as applied to claims 1, 20, and 28 above, and further in view of **O'Meara**.

For claim 18, the combination above includes the claimed subject matter as discussed in the rejection of claims 1 and 15 above. However, there is no mention of heating the support mechanism or optical system.

The laser lighting system taught by **O'Meara** includes an optical system that assists in locating markers for navigation. One embodiment shown in Figure 28 includes a heated glass cover for clearing frost and ice from the surface of the optical system so that operation of the optical system is not impaired.

The O'Meara reference is plain evidence that optical systems have used heating to clear the optical channels for proper operation. The primary reference is to be used outdoors where such weather conditions may be experienced. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include heating means in the optical system of Mehnert for the purpose of insuring proper operation in inclement weather.

For claim 26, the combination above includes the claimed subject matter as discussed in the rejection of claims 20 and 24 above. However, there is no mention of heating the support mechanism or optical system.

The claim is interpreted and rejected for the same reasons and rationale as is mentioned in the rejection of claim 18 above.

For claim 32, the combination above includes the claimed subject matter as discussed in the rejection of claims 28 and 31 above. However, there is no mention of heating the support mechanism or optical system.

The claim is interpreted and rejected for the same reasons and rationale as is mentioned in the rejection of claim 18 above.

Response to Arguments

Argument 1:

"The determination of the proximity of an object relative to the location of an aircraft, the identification of the object and other comparisons and evaluations mentioned in the specification are operations that may be carried out by one or more appropriately programmed standard commercially available computers. The nature of the program will be readily evident from the function described, is within the capability of persons of ordinary skill in the art, and, therefore, need not be explained more fully beyond the comments made in the specification. The subject matter of the present application is a system and method and not computer software. Moreover, Applicant does not intend to limit the present invention to any particular signal processing system, method or software program."

Argument 2:

"In further response to the Examiner's inquiry, Applicant contends that methods and systems for changing the height of the optical sensor system are so notoriously well-known that merely showing two different positions in the drawing package is enough to enable that feature of the present invention."

Argument 3:

"In addition to the lack of motivation or suggestion to combine, there is no reasonable expectation of success that combining *Mehnert* with a user interface will

yield a reasonable probability of success. The Examiner has provided no evidence to the contrary. The obviousness rejection should fail for this reason as well."

Argument 4:

"*Byrne* does not teach, suggest or disclose an optical system comprising at least one transmitter located at a first location and at least one receiver corresponding to the transmitter, located at a second location, as recited in independent claims 1, 20 and 28."

6. Applicant's arguments filed 5/29/03 have been fully considered but they are not persuasive.

Response to Argument 1:

The Applicant's specification does not provide any detail or any provision as to how the location, determination, and characterization of the objects is performed. To include this subject matter in the specification certainly does not limit the system to any particular signal processing system, method or software program. The claims are where any limitation is impressed. The only subject matter that enables one of skill in the art to make or use said subject matter is the configurations of the transmitters and receivers around the perimeters of a runway. It is unknown why the Applicant is unwilling to go into any detail regarding the processing of the data. The Examiner appreciates the inclusion of such subject matter as the Object Location Processor and

the Object Characterizer; however, without some minimal description of how the data is processed or treated to activate the alarm or interfaces, the above 112 rejection stands.

Further, claim 10 recites that the object characterizer processes the proximity of the object relative to the location of an aircraft. As repeated from the previous rejection, an aircraft is not even present in the drawings and this method is not sufficiently described or defined in the specification.

Response to Argument 2:

If the methods of adjusting the height of the optical system are so "notoriously well-known" then the Applicant shouldn't have any problem describing them in the specification.

Response to Argument 3:

Exactly what kind or type of "user interface" is the Applicant referring to? A keyboard is a "user interface". A mouse is a "user interface". A computer monitor is a "user interface". All these interfaces would certainly contribute a reasonable probability of success.

Response to Argument 4:

This statement is incorrect. Figure 1 of **Byrne** clearly depicts an optical transmitter (No. 3) in one location and a corresponding receiver (No. 5) in a second location.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. Tweel, Jr. whose telephone number is 703 308 7826. The examiner can normally be reached on M-F 10-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Hofsass can be reached on 703 305 4717. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305 3900.

JAT
8/24/03

JOHN TWEEL
PRIMARY EXAMINER